Mahsa Moosavi

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Academic Background

Degrees

- **Ph.D.**, Concordia Institute for Information Systems Engineering (CIISE), Concordia University, Montreal, QC, Canada, May 2018 — present (GPA: 4.2/4.3)
  - —**Thesis**: "Understanding the Future of Financial Technologies (FinTech) Using Blockchains"
  - —**Advisor**: Dr. Jeremy Clark
- **M.A.Sc.**, Concordia Institute for Information Systems Engineering (CIISE), Concordia University, Montreal, QC, Canada, Graduated: March 2018 (GPA 3.86/4.3)
  - —**Thesis**: "Rethinking Certificate Authorities: Understanding and Decentralizing Domain Validation"
  - —**Advisor**: Dr. Jeremy Clark
- **B.Sc.**, Computer Engineering, Alzahra University, Tehran, Iran, Graduated: January 2014
  - —**Thesis**: "Eye Gaze Tracking Using Pattern Recognition Methods"
  - —**Advisor**: Dr. Reza Azmi

Awards & Honors

1. Fonds de Recherche du Québec – Nature et technologies (FRQNT) Doctoral Fellowship, 2019 — 2023 (**$84,000**)
   - Ranked 3/21 of pre-selected applications (7 awarded)
2. Concordia University Conference and Exposition Award, 2020 **($1000**)
3. Concordia University Conference and Exposition Award, 2019 (**$573**)
4. Concordia University Conference and Exposition Award, 2018 (**$1000**)
5. The Fields Institute for Research in Mathematical Sciences Conference and Travel Award, 2018 (**$653**)

6. Concordia University International Tuition Award of Excellence, 2018 —2022 (**$ 36,918**)
7. Power Corporation of Canada Graduate Fellowship, 2017 (**$5000**)

Employment

Industrial Positions

- Integration Engineer, *Offchain Labs*, New York, New York, United States, April 2021 — present

Internship

- Research Intern, *The Autorité des Marchés Financiers (AMF)*, Montreal, Quebec, Canada, June 2018 — October 2018

Publications

Note on the nature of the field:

Unlike other fields, the most active venues for security research are refereed conferences and workshops, as opposed to refereed journals. While termed a "workshop", these are also rigorously peer reviewed venues for completed technical papers and are typically competitive. In our field, the term workshop denotes a venue that is specific to a narrow domain, as opposed to conferences and symposiums, which tend to accept a wide range of papers.
As one illustrative example, our well-publicized work on the blockchain front-running attacks appeared initially at a workshop (Trusted Smart Contracts which is co-located with Financial Cryptography and Data Security; a top-4 conference). The following year, we published this paper in the Stanford Blockchain Conference, a highly competitive refereed conference.

Refereed Conference Publications

- **M. Moosavi**, J. Clark. Lissy: Experimenting with on-chain order books. T*rusted Smart Contracts*, *Proceedings of Financial Cryptography and Data Security: FC Workshops*, 2022.
- S. Eskandari, **M. Moosavi**, J. Clark. Transparent Dishonesty: front-running attacks on Blockchain. T*rusted Smart Contracts*, *Proceedings of Financial Cryptography and Data Security: FC Workshops*, 2019. LNCS 11599
- S. Eskandari, **M. Moosavi**, J. Clark. Transparent Dishonesty: front-running attacks on Blockchain. *Stanford Blockchain Conference,* 2020
- **M. Moosavi**, J. Clark. Ghazal: toward truly authoritative web certificates using Ethereum. Trusted Smart Contracts, Proceedings of Financial Cryptography and Data Security: FC Workshops, 2018. LNCS 10958

Articles in Journals

- J. Clark, D. Demirag, **S. Moosavi** (*Authors listed alphabetically. D. Demirag and S. Moosavi should be considered equal first authors*). Demystifying Stablecoins. *Communications of the ACM*. 63(7):40-46. 2020

Teaching

Experience

- Security Evaluation Methodologies (INSE 6150, Graduate Course), Concordia University
  - —Teaching Assistant (Fall 2016, Winter 2017, Winter 2018, Winter 2019, Summer I 2020)
  - —Guest Lecture on STRIDE and Threat Modeling (Fall 2016)
- Recent Developments in Information Systems Security — Bitcoin & Blockchain Technologies (INSE 6630, Graduate Course), Concordia University
  - —Teaching Assistant (Fall 2017)

Trainings Attended

- Graduate Seminar in University Teaching, Concordia's Graduate & Professional Skills
  - —A 32-hour seminar on exploring various approaches to teaching, designing lessons, developing a course (August 2016)

Evidence of Impact

Talks & Panel Discussions:

1. Devcon VI. "Fast and Furious Withdrawals from Optimistic Rollups." Bogotá, Colombia, October 12, 2022
2. 6th Workshop on Trusted Smart Contracts. "Lissy: Experimenting with on-chain order books." Virtual, May 6, 2022
3. Ethereum Community Conference 4 (EthCC). "Fully On-Chain Order Books." Paris, France, July 20, 2021
4. Blockchain Technology Symposium (BTS'21) . "Trading On-Chain: How Feasible Is Regulators' Worst-case Scenario?" University of British Columbia. Vancouver, Canada, June 1, 2021

5. CyberEco Cyber Conference. “Trading on-chain: How feasible is regulators’ worst-case scenario?” May 5, 2021
6. Workshop on Decentralized Finance (DeFi) in association with Financial Cryptography and Data Security 2021. “Trading on-chain: how feasible is regulators’ worst-case scenario?” Virtual, March 5, 2021
7. SecRev - The Security Revolution from Montreal. “Demystifying Stablecoins.” Montreal, Canada, March 20, 2020
8. Ethereum Community Conference (EthCC). “Demystifying Stablecoins: Cryptography meets monetary policy.” Paris, France, March 4, 2020
9. Blockchain Technology Symposium (BTS’20). “Demystifying Stablecoins,” Fields Institute. Toronto, Canada, February 18, 2020
10. The Future of Blockchain: Bridging Research and Real-world Applications. “Stablecoins,” Blockscrum. Montreal, Canada, January 29, 2020
11. HackFest. “Recent developments in designing price-stable cryptocurrencies.” Quebec City, Canada, November 1, 2019
12. ITConnect Cybersecurity. “The Blockchain Technology” Panel Discussion with Louis Roy (Blockchain Leader, Raymond Chabot Grant Thornton), Sean Stapley (Director of Business Development, MLG Blockchain), and John Shannon (Acting Director General, Digital Technologies Research Centre at the National Research Council of Canada). Champlain College St-Lambert, Canada, June 7, 2019
13. HackFest. “Understanding digital certificate cybercrime exploitation and decentralizing the web using Ethereum blockchain.” November 3, 2018
14. Blockchain Technology Symposium (BTS’18). “Ghazal: toward truly authoritative web certificates using Ethereum,” Fields Institute. Toronto, Canada, September 20, 2018.
15. SecRev - The Security Revolution from Montreal. “Decentralizing Domain Name Validations Using Ethereum.” Montreal, Canada, July 12, 2018
16. 2nd Workshop on Trusted Smart Contracts. “Ghazal: toward truly authoritative web certificates using Ethereum.” Curacao, March 2, 2018

Professional Activities

Program Committees

1. The 3rd Workshop on Decentralized Finance in association with Financial Cryptography and Data Security 2023 (DeFi’23)

2. The 2nd Workshop on Decentralized Finance in association with Financial Cryptography and Data Security 2022 (DeFi'22)

Conference External Reviewer

1. 24th Financial Cryptography and Data Security (FC'20)
2. 23rd Financial Cryptography and Data Security (FC'19)
3. 2nd Crypto Valley Conference on Blockchain Technology (CVCBT'19)
4. 22nd Financial Cryptography and Data Security (FC'18)
5. 1st Workshop on Blockchain and Sharing Economy Applications (BlockSEA'18)
6. 3rd IEEE Security & Privacy on the Blockchain (IEEE S&B'18)
7. 13th Symposium on Electronic Crime Research (eCrime18)

Mentorship & Leadership

- Blockchain Mentor
    1. Formathon - Montreal Annual FinTech competition, 2018
    2. Coopérathon - The largest open innovation challenge in the world, 2018
- Led a team of FinTech enthusiasts towards the Montreal 1st Annual Formathon Competion and won the first team prize, District 3 Innovation Centre, 2017

Service to the University

- Vice President of Finance, Engineering and Computer Science Graduate Association (ECSGA), Concordia University, 2016 — 2017
- Information Systems Security Representative for CIISE Council Committee Meeting, Concordia University, 2018 — 2022